

Project Summary

I. INTRODUCTION

This source has applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing operation. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA.

Solutia Inc. is located at 500 Monsanto Avenue in Sauget. The Krummrich plant produces various types of chemical intermediates and final products including chlorobenzenes and refined dichlorobenzene .

II. EMISSION UNITS

Significant emission units at this source are as follows:

Emission Unit	Description	Date Constructed	Emission Control Equipment
MCB Process			
2330101	>400,000 Gallon Storage Tank	March 1995	Thermal Oxidizer 2330148
2330101A	<39,900 Gallon Storage Tank	Dec. 1966 (Modified July 1992)	Vent Scrubber 2330140 and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330102A	<39,900 Gallon Storage Tank	July 1992	Vent Scrubber 2330140 and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330111	Column	Dec. 1966 (Modified July 1991)	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330112	Condenser	Unknown	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330115	Heat Exchanger	Dec. 1966 (Modified July 1991)	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330117	<39,900 Gallon Storage Tank	June 1997	Vent Scrubber 2330140 and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144

Emission Unit	Description	Date Constructed	Emission Control Equipment
2330180	<10,000 Gallon Storage Tank	April 1993	Vent Scrubber 2330140 and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330187	Separator	July 1994	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330202	Reactor	Sept. 1975	Off-Gas Scrubber 2330209, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330205	Reactor	Sept. 1975	Off-Gas Scrubber 2330209, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330210	Process Tank	Dec. 1966 (Modified January 1986)	Carbon Adsorption System 2330144
2330220	Reactor	Sept. 1975	Off-Gas Scrubber 2330209, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330401	Column	Dec. 1966	Off-Gas Scrubber 2330209, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330408	Column	Dec. 1966	Off-Gas Scrubber 2330209, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330411	<39,900 Gallon Storage Tank	Nov. 1994	Vent Scrubber 2330140 and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330502	Column	Dec. 1966	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330503	Condenser	Dec. 1966	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330505	Heat Exchanger	Dec. 1966	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144

Emission Unit	Description	Date Constructed	Emission Control Equipment
2330510	Column	Dec. 1966	Carbon Adsorption System 2330144
2330511	Condenser	Dec. 1966	Carbon Adsorption System 2330144
2330514	<39,900 Gallon Storage Tank	March 1995	None
2330515	<39,900 Gallon Storage Tank	Dec. 1966	None
2330516	Heat Exchanger	Dec. 1966	Carbon Adsorption System 2330144
2330521	Process Tank	Dec. 1966	Carbon Adsorption System 2330144
2330534	Condenser	Dec. 1966	Vent Scrubber 2330140, and Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330701	Column	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330702	Column	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330703	Column	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330704	Separator	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330705	Process Tank	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330710	Column	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330711	Heat Exchanger	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2330715	<19,800 Gallon Storage Tank	March 1994	HCl Tank Farm Scrubber 2330735
2330716	<19,800 Gallon Storage Tank	Oct. 1976	HCl Tank Farm Scrubber 2330735
2330717	<19,800 Gallon Storage Tank	Sept. 1963	HCl Tank Farm Scrubber 2330735
2330718	>39,900 Gallon Storage Tank	June 1964	HCl Tank Farm Scrubber 2330735
2330719	>39,900 Gallon Storage Tank	Nov. 1993	HCl Tank Farm Scrubber 2330735
2330722	>39,900 Gallon Storage Tank	Aug. 1950 (Modified Sept. 1976)	HCl Tank Farm Scrubber 2330735
2330725	>39,900 Gallon Storage Tank	March 2003	Item 725 Scrubber 2330794
2330785	Process Tank	April 1995	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
2332831	>39,900 Gallon Storage Tank	Aug. 1977	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
2332832	>39,900 Gallon Storage Tank	Aug. 1977	None
2333301	>39,900 Gallon Storage Tank	Aug. 1977	None
2333751	>39,900 Gallon Storage Tank	Feb. 1964	None
2333752	>39,900 Gallon Storage Tank	Feb. 1964	None
7480947	>39,900 Gallon Storage Tank	Nov. 1990 (Modified Nov. 1991)	Carbon Adsorption System 2330144
7480950	>39,900 Gallon Storage Tank	Nov. 1990	Thermal Oxidizer 2330148 or Carbon Adsorption System 2330144
Residue Loading	Loading Operation	Unknown	None
MCB Loading	Loading Operation	Unknown	None
HCl Loading	Loading Operation	Sept. 1977	Muriatic Acid Loading Scrubber 2330741
DCB Process			
2240301	Process Tank	July 1990	None
2240302	Process Tank	July 1990	None
2240304	Process Tank	March 1978	None
2240305	Process Tank	Sept. 1982	None
2240311	Process Tank	Jan. 1971	None
2240314	Process Tank	April 1980	None
2240326	<39,900 Gallon Storage Tank	Oct. 1991	None
2240328	Heat Exchanger	June 1968	Jets and Condensers 2240351
2240330	Column	June 1968	Jets and Condensers 2240351
2240333	Separator	June 1968	Condenser 2240351
2240341	<39,900 Gallon Storage Tank	Sept. 1968	None
2240343	<19,800 Gallon Storage Tank	March 1961	None
2240346	<39,900 Gallon Storage Tank	Prior to April 14, 1972	None
2240360	Receiver	June 1968	None
2240364	<19,800 Gallon Storage Tank	April 1969	None
2240365	<19,800 Gallon Storage Tank	June 1968	None
2240400	Heat Exchanger	Sept. 1984	None
2240401	Heat Exchanger	Sept. 1984	None
2240402	Heat Exchanger	Sept. 1984	None
2240403	Heat Exchanger	Sept. 1984	None
2240407	Heat Exchanger	Sept. 1984	None
2240408	Overflow Tank	Sept. 1984	None
2240500	<39,900 Gallon Storage Tank	Sept. 1989	None
2240510	Heat Exchanger	Sept. 1989	None
2240511	Separator	Sept. 1989	None
2240519	<19,800 Gallon Storage Tank	Oct. 1985	None
2240520	Heat Exchanger	Sept. 1989	None
2240525	<19,800 Gallon Storage Tank	Oct. 1985	None
2240546	<39,900 Gallon Storage Tank	Sept. 1989	None
2240560	Column	Sept. 1989	None

Emission Unit	Description	Date Constructed	Emission Control Equipment
2240561	Separator	Sept. 1989	None
2240568	<39,900 Gallon Storage Tank	Aug. 1984	None
2240569	<39,900 Gallon Storage Tank	June 1980	None
2240591	<10,000 Gallon Storage Tank	Sept. 1989	None
2240621	Surge Tank	May 1985	None
2240631	Surge Tank	May 1985	None
Crude DCB Loading	Loading Operation	Oct. 1968	None
Mixed DCB Loading	Loading Operation	Oct. 1968	None
ODCB Loading	Loading Operation	Oct. 1968	None
PDCB Loading	Loading Operation	Oct. 1968	None
Residue Loading	Loading Operation	Unknown	None
Santoflex Process			
2770101	>39,900 Gallon Storage Tank	Apr. 1977	Condenser 2770102
2770151	>39,900 Gallon Storage Tank	Sep. 1977	Condenser 2770152
2770157	<39,900 Gallon Storage Tank	July 1977	Condenser 2770158
2770209	Hopper	Dec. 1986	Dust Collector 2770213
2770231	Line #1 Process Tank	Dec. 1986	Condenser 2770234, Separator 2770236, Scrubber 2770235
2770233	Line #1 Process Tank	Dec. 1986	Condenser 2770234, Separator 2770236, Scrubber 2770235
2770237	Line #1 Reactor	Dec. 1986	Condenser 2770234, Separator 2770236, Scrubber 2770235
2770281	Line #2 Process Tank	Dec. 1986	Condensers 2770279 and 2770284, Separator 2770285, Scrubber 2770286
2770283	Line #2 Process Tank	Dec. 1986	Condenser 2770284, Separator 2770285, Scrubber 2770286
2770287	Line #2 Reactor	Dec. 1986	Condenser 2770284, Separator 2770285, Scrubber 2770286
2770301	Line #1 Process Tank	Dec. 1986	Condenser 2770234, Separator 2770236, Scrubber 2770235
2770321	Line #1 Process Tank	Dec. 1986	Condenser 2770325
2770351	Line #2 Process Tank	Dec. 1986	Condenser 2770284, Separator 2770285, Scrubber 2770286
2770371	Line #2 Process Tank	Dec. 1986	Condenser 2770375
2770373	Line #2 Process Tank	Dec. 1986	Condenser 2770375
2770379	Process Tank	Dec. 1986	Condenser 2770375
2770404	Line #1 Column	Dec. 1986	Condensers 2770428, 2770415, and 2770418
2770406	Line #1 Column	Dec. 1986	Condensers 2770428, 2770415, and 2770418
2770409	Line #1 Process Tank	Dec. 1986	Condenser 2770418
2770411	Line #1 Process Tank	Dec. 1986	Steam Jet Condenser 2770415
2770419	Line #1 Process Tank	Dec. 1986	Condenser 2770420

Emission Unit	Description	Date Constructed	Emission Control Equipment
2770451	Line #2 Column	Dec. 1986	Condensers 2770455, 2770460, and 2770465
2770453	Line #2 Column	Dec. 1986	Condensers 2770455, 2770460, and 2770465
2770459	Line #2 Process Tank	Dec. 1986	Condenser 2770460
2770461	Line #2 Process Tank	Dec. 1986	Condenser 2770460
2770463	Line #2 Process Tank	Dec. 1986	Steam Jet Condenser 2770465
2770469	Line #2 Process Tank	Dec. 1986	Condenser 2770470
2770471	Line #2 Process Tank	Dec. 1986	Condenser 2770472
2770473	Line #2 Process Tank	Dec. 1986	Condenser 2770474
2770601	Separator	Aug. 2000	Condenser 2770605
2770607	Separator Tank	Dec. 1986	None
P2S5 Process			
2450560	Heat Exchanger	Jan. 1998	Packaging Scrubber 2450112
2450804	Furnace (<10.0 mmBtu/hr)	May 1958	None
2450801	<10,000 Gallon Storage Tank	April 1958	None
ACL Process			
2520102	Reactor	June 1983	ACL Gas Scrubber 2520120
2520104	Reactor	June 1983	ACL Gas Scrubber 2520120
2520125	Blower	June 1983	ACL Gas Scrubber 2520120
2520242	Reactor	Nov. 2000	Scrubber 2520256, ACL Gas Scrubber 2520120
2520244	Heat Exchanger	Oct. 1972	Scrubber 2520256, ACL Gas Scrubber 2520120
2520259	Filter	Oct. 1997	Scrubber 2520256, ACL Gas Scrubber 2520120
2520261	Separator	Oct. 1993	Scrubber 2520256, ACL Gas Scrubber 2520120
2520274	Process Tank	Sept. 2000	Scrubber 2520256, ACL Gas Scrubber 2520120
2520278	Process Scrubber	Oct. 1994	Scrubber 2520256, ACL Gas Scrubber 2520120
2520280	Column	Sept. 2000	Scrubber 2520256, ACL Gas Scrubber 2520120
2520281	Process Tank	Oct. 2003	Scrubber 2520256, ACL Gas Scrubber 2520120
2520287	Vacuum Pump	Oct. 1990	Scrubber 2520256, ACL Gas Scrubber 2520120
2520298	Heat Exchanger	May 1985	Scrubber 2520256, ACL Gas Scrubber 2520120
2520313	Bucket Elevator	Oct. 1986	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520319	Compactor	Oct. 1979	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520321	Mill	Oct. 1979	Dust Collector 2520524, ACL Gas Scrubber 2520120

Emission Unit	Description	Date Constructed	Emission Control Equipment
2520322	Screener	Oct. 1992	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520324	Conveyor	Oct. 1987	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520326	Screener	Oct. 1987	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520327	Separator	Oct. 1988	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520329	Hopper	Oct. 1988	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520344	Hopper	Oct. 1988	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520345	Hopper	Dec. 2001	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520506	Dryer	Oct. 1990	Dust Collectors 2520509 and 2520510, ACL Gas Scrubber 2520120
2520507	Process Cyclone	July 1987	Dust Collectors 2520509 and 2520510, ACL Gas Scrubber 2520120
2520521	Gas Burner	Oct. 1992	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520522	Cooler	Oct. 1992	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520523	Process Cyclone	Oct. 1991	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520529	Hopper	Oct. 1988	Dust Collectors 2520509 and 2520510, ACL Gas Scrubber 2520120
2520533	Cooler	Mar. 1993	Dust Collector 2520524, ACL Gas Scrubber 2520120
2520543	Gas Burner	Oct. 1984	Dust Collectors 2520509 and 2520510, ACL Gas Scrubber 2520120
2520809	Chlorine Unloading Dock	Oct. 1988	Scrubber 2520256, ACL Gas Scrubber 2520120
2520810	Chlorine Unloading Dock	Oct. 1988	Scrubber 2520256, ACL Gas Scrubber 2520120
2520813	Process Tank	Oct. 1997	Scrubber 2520256, ACL Gas Scrubber 2520120
Other			
Fugitive PM Emissions	Paved/Unpaved Traffic Areas, Parking Lots, and Roadways	--	None
Fugitive HAP, SO ₂ , PM, and VOM Emissions	Equipment Leaks, Loading/Unloading Operations, and Cleanup Operations	--	None

III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions.

For purposes of fees, the source is allowed the following emissions:

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Nitrogen Oxides (NO _x)	67.27
Particulate Matter (PM)	53.60
Sulfur Dioxide (SO ₂)	3.30
Volatile Organic Material (VOM)	390.55
HAP, not included in VOM or PM	55.83
Total	570.55

This permit is a combined Title I/CAAPP permit that may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the Clean Air Act and regulations promulgated thereunder, including 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the permit by T1, T1R, or T1N. The source has requested that the Illinois EPA establish or revise such conditions in a Title I permit, consistent with the information provided in the CAAPP application. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

All emission sources in Illinois must comply with the federal New Source Performance Standards (NSPS). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

All emission sources in Illinois must comply with the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

V. PROPOSED PERMIT

CAAPP

A CAAPP permit contains all conditions that apply to a source and a listing of the applicable state and federal air pollution control regulations that are the origin of the conditions. The permit also contains emission limits and appropriate compliance procedures. The appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis.

Title I

A combined Title I/CAAPP permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I provisions, e.g., 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Notwithstanding the expiration date on the first page of the permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.